PPC-1251 SERIES

12.1″ LCD 超薄型低功耗无风扇平板电脑

Extra-thin Fanless Panel PC with Low Power Consumption

Version: C00

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安全使用小常识

1. 产品使用前，务必仔细阅读产品说明书；
2. 为避免人体被电击或产品被损坏，在每次对板卡进行拔插、重新装配或配置前，须先关闭交流电源或将交流电源线从电源插座中拔掉；
3. 在需对产品进行搬动时，务必先将交流电源线从电源插座中拔掉；
4. 当需连接或拔除任何信号线前，须确定所有的电源线事先已被拔掉；
5. 为避免频繁开关机对产品造成不必要的损伤，关机后，应至少等待 30 秒后再开机；
6. 如果要进行升级或拆装等动作，须在静电放电工作台上完成所有操作，因为有些精密器件对静电放电（ESD）很敏感；
7. 如果没有静电放电工作台，可通过以下方法降低 ESD 可能造成的危害：
   a) 戴上一条防静电腕带并与相应产品的金属部分相连；
   b) 在触摸产品部件前，先触摸相应产品机箱上的金属壳；
   c) 当插拔部件时，身体最好与产品的金属机箱保持接触，以释放静电；
   d) 避免不必要的走动；
   e) 拿产品部件（尤其是板卡）时仅拿住边缘；
   f) 将产品部件置于一个接地的无静电的操作平台上。如果可能的话，使用一块导电泡沫垫（非部件的包装材料）；
   g) 不要让部件在操作平台上滑动。
8. 用十字螺丝刀进行操作，最好是强力螺丝刀（带磁性，避免螺丝遗留在机箱内）。要注意的是，一定不要将工具或零件遗漏在机箱内；
9. 保证系统良好的散热与通风。

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第一章 产品介绍

简介

PPC-1251系列是无风扇低功耗工业级平板电脑。配置12.1″ LCD 液晶屏，整机外形美观，结构紧凑，具备丰富的I/O 接口。可广泛应用于对外形、尺寸有严格要求的行业，如塑胶机械、测试设备等。同时无风扇的设计也使它可以适应工业现场等环境较为恶劣的情况。

主要功能介绍

微处理器

Intel® Celeron®-M 600M

芯片组

Intel® 910GMLE/915GM+ICH6M

内存

标配 1GB DDRII 内存，最高可升级至 2GB。

网络功能

载板 1 个 10/100Mbps 以太网络接口。

显示功能

整机外置 1 个 VGA 接口。

LCD特性

显示屏：12.1″ 彩色TFT LCD；

接口：LVDS；

分辨率：800×600；

亮度：450cd/m^2；

对比度 ≥350：1。

存储功能

标配 2.5 英寸 160G SATA 接口硬盘；支持 CF Type II。

音频功能

板载 HD Audio，支持 MIC-in /Speaker-out。

外部 IO 接口

- 1 个 VGA 接口；
- 1 个 RJ45 网口，支持 10/100Mbps；
- 1 组音频接口（MIC-in，Speaker-out）；
- 1 个 PS/2 键盘/鼠标接口；
- 3 个 RS-232 串口（底板提供 6 个串口，整机外置其中 3 个； COM1，COM2 支持 RS-232/RS-422/RS-485 模式选择）；
- 4 个 USB 2.0 接口；
- 1 个 DC 电源接口。

电源特性

电源类型：电源适配器；

输入电压/频率：100～240V AC 50Hz/60Hz 总功率：96W（Max）；

输出电压/电流：+12V@8A（Max），+5%/-5%。

主要性能指标

机械尺寸、重量与环境

- 外形尺寸： 320mm（长）×242mm（宽）×49mm（高）；
- 净重： 4.10Kg；
- 工作环境：

  温度： 0℃～50℃；

  湿度： 10%～95%（非凝结状态）；
- 贮存环境：

  温度： -20℃～60℃ ；

  湿热交变：+30℃～60℃，RH＝85%～95%，48h。

电磁兼容性

- GB 9254-1998 辐射骚扰（A）级；传导骚扰（A）级；
- GB/T 17626.2-2006 静电放电（2）级；
- GB/T 17626.4-2008 群脉冲抗扰度（2）级；
- GB/T 17626.5-2008 浪涌（冲击）抗扰度（2）级；
- GB/T 17626.6-2008 传导抗扰度（2）级；
- GB/T 17626.11-2008 电压暂降、电压短时中断。

可靠性

- 平均无故障工作时间：MTBF≥50000h；
- 平均维修时间：MTTR≤0.5h。

安全性

满足 GB4943 的基本要求。

机械环境适应性

- 抗振动：5～17Hz/1.0mm 振幅；17～200Hz/1.0g 加速度；
- 抗冲击：10g 加速度，11ms 周期。

运输与贮存要求

- **运输：**

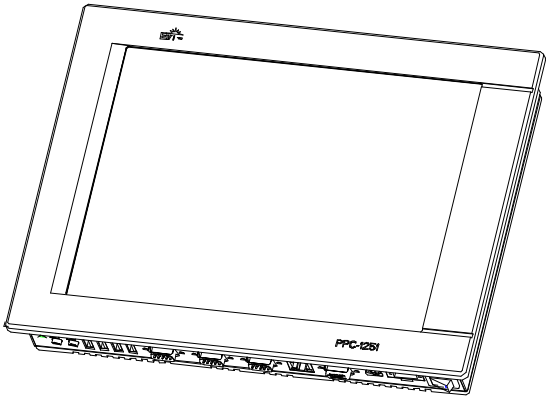
包装好的产品能以任何交通工具,运往任何地点，在长途运输时不得装在敞开的船舱和车厢中，中途转运时不得存放在露天仓库中，在运输过程中不允许和易燃、易爆、易腐蚀的物品同车（或其他运输工具）装运，并且产品不允许经受雨、雪或液体物质的淋湿与机械损坏。

- **贮存：**

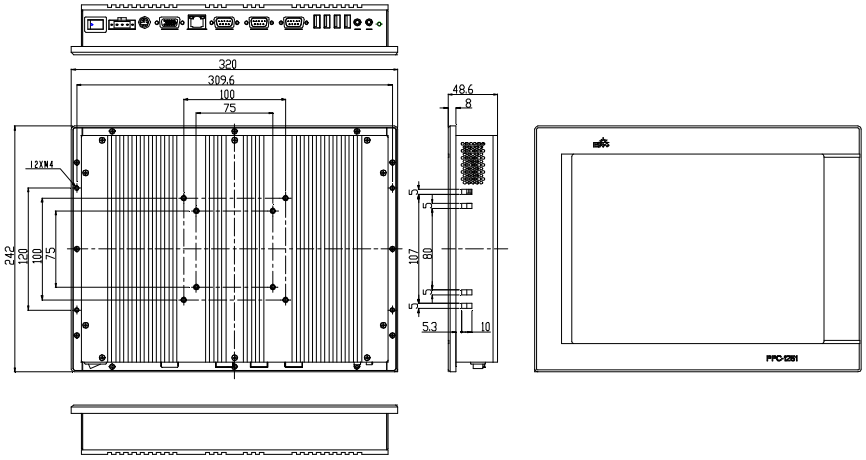
产品贮存时应存放在原包装箱内,存放产品的仓库环境温度为 0℃～40℃，相对湿度为 20%～85%.仓库内不允许有各种有害气体、易燃、易爆炸的产品及有腐蚀性的化学物品，并且无强烈的机械振动、冲击和强磁场作用。包装箱应垫离地面至少 10cm，距离墙壁、热源、冷源、窗口或空气入口至少 50cm。

第二章　安装说明

产品外观图

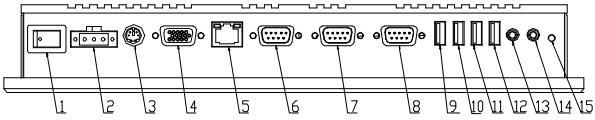


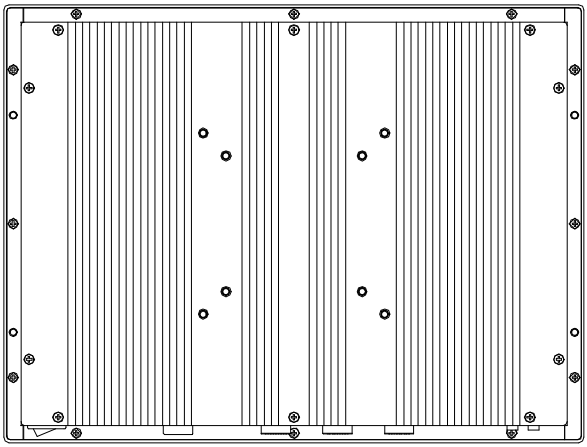
产品外形及安装尺寸图

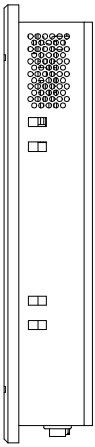


单位：mm

外部控制接口图

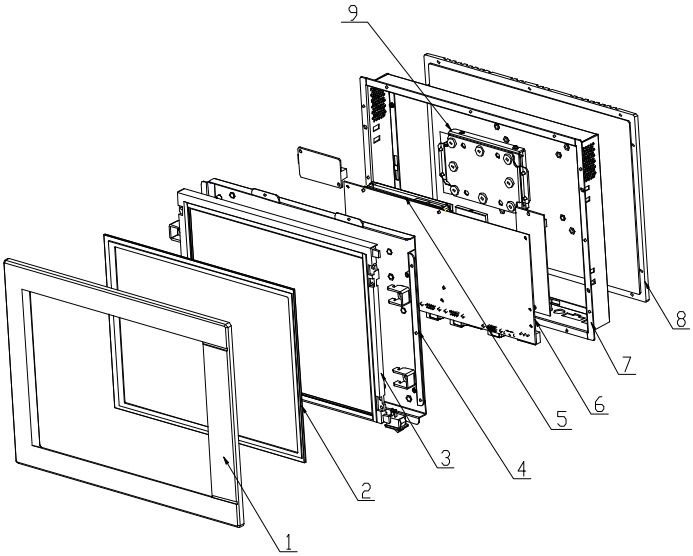






1、开关	2、电源接口
3、PS/2 键盘/鼠标接口	4、VGA 接口
5、网络接口	6、COM 接口 1
7、COM 接口 2	8、COM 接口 3
9、USB 接口 4	10、USB 接口 3
11、USB 接口 2	12、USB 接口 1
13、麦克风	14、音频输出接口
15、接地螺孔	

整体装配图



1、铝合金面板	2、触摸屏/钢化玻璃
3、液晶屏	4、液晶屏支架
5、主板	6、载板
7、箱体	8、背板
9、硬盘组件	

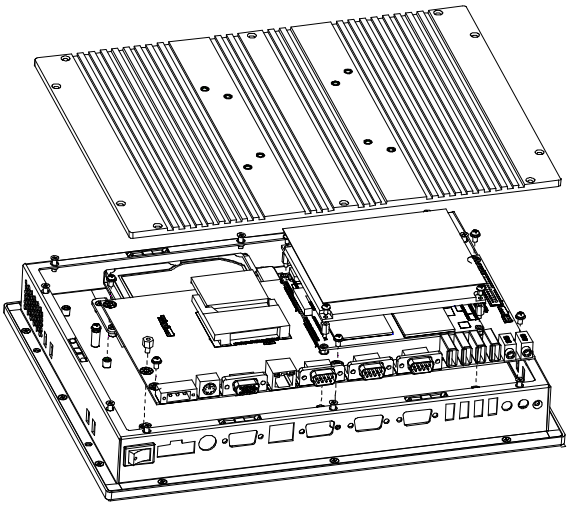
主板安装

1.将液晶屏、屏支架及面板装配完成；

2.将底板置于屏支架相应的压铆螺钉位上，收紧相应的螺钉；

3.将主板置于底板相应的插槽位，并压紧；

4.打紧主板螺钉及底板支架螺钉。

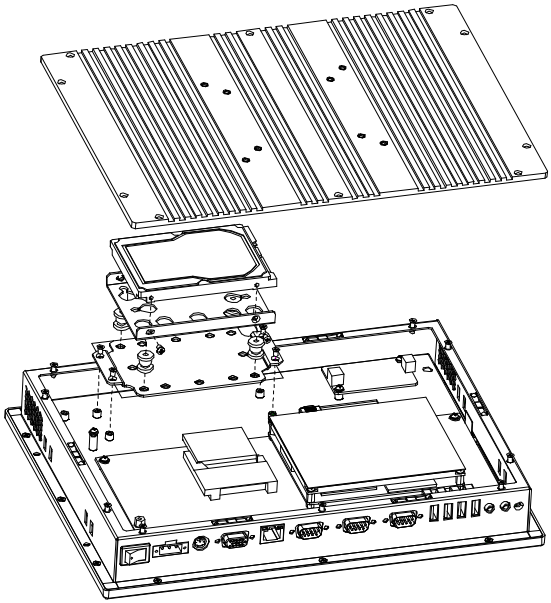


硬盘安装

1. 用减震垫把硬盘支架 1 及硬盘支架 2 装配成为硬盘支架组件；

2. 把硬盘装配到硬盘支架组件中，并打紧螺钉，作为硬盘组件；

3. 把硬盘组件装配入机箱中，插上相应的线缆，并打紧螺钉。



第三章　驱动程序安装说明

本产品的驱动程序可依据整机配套光盘内容安装，在此不做介绍。

欲获更多信息请访问研祥网站：http://www.evoc.com。

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Safety Instructions

1. Please read the user's manual carefully before using the product.
2. Before inserting, removing or re-configuring the board, firstly turn off the AC power or remove the AC power cable from the power socket, to avoid electric shock to human body or product damage;
3. Before moving the product, please make sure all the AC power cables are removed from power socket beforehand;
4. Before you connect or unplug any signal cable, make sure all power cords are unplugged in advance;
5. To avoid power on/off computer frequently, wait at least 30 seconds after turning off the computer before re-turning on the computer.
6. If it is required to upgrade or remove the product, please implement all the operation on an ESD workstation, for some precision devices are sensitive to ESD;
7. If there's no ESD workstation, You can take the following steps to prevent damage from electrostatic discharge (ESD):
   a) Wear a grounded wrist strap and connect with the metal part of the product;
   b) Always touch the metal chassis or frame before you touch any components;
   c) Keep part of your body in contact with the metal chassis to dissipate the static charge while handling components;
   d) Avoid all unnecessary movement;
   e) Hold components (especially a board) by its edges;
   f) Place the components on a grounded, static-free surface. Use a conductive foam pad if available (not the component wrapper).
   g) Do not let the components slide on the operating platform.
8. Use cross head screwdriver to operate. A magnetic screwdriver is recommended (with magnet to avoid leaving screws in chassis). Do not leave any tools or components inside the chassis;
9. Assure abundant cooling and streamline ventilation.

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Chapter 1 Product Introduction

Overview

PPC-1251 series is a fan-less industrial-grade panel PC with low power consumption. 12.1″ LCD is configured. The product is elegant in appearance and compact in structure; moreover, it provides abundant I/O connectors, so that it can be widely used in fields requiring strictly in appearance and form factor such as plastic machine and test device. In addition, the fan-less design makes it possible to work in harsh environment such as industrial fields, etc.

Main Functions

Microprocessor

Intel® Celeron®-M 600M

Chipset

Intel® 910GMLE/915GM+ICH6M

Memory

1GB DDRII in standard configuration, up to 2GB;

Network Function

One on-board 10/100Mbps LAN port;

Video Function

One VGA connector is configured externally;

LCD Features

Display: 12.1″ Color TFT LCD;

Interface: LVDS;

Resolution: 800 x 600;

Luminance: 450cd/m^2;

Contrast: ≥350:1;

Storage Function

2.5" 160G SATA HDD in standard configuration; support CF Type II

Audio Function

On-board HD Audio; support MIC-in /Speaker-out

External IO Connectors

- One VGA connector;
- One RJ45 LAN port connector, 10/100Mbps;
- A set of audio connector (MIC-in, Speaker-out);
- One PS/2 keyboard/mouse connector;
- Three RS-232 serial ports (Six serial ports are provided on carrier, three of which are built out to the box PC; COM1 and COM2 support RS-232/ RS-422/RS-485 mode selection);
- Four USB 2.0 ports;
- One DC power connector;

Power Features

Power Type: Power Adapter;

Input Voltage/Frequency: 100 ~ 240V AC 50Hz/60Hz;

General Power Consumption: 96W (Max);

Output Voltage/Current: +12V@8A (Max), +5%/-5%

Main Performance

Mechanical Dimension, Weight and Environment

- Dimension: 320mm (L) x 242mm (W) x 49mm (H);
- Net Weight: 4.10Kg;
- Operating Environment:

  Temperature: 0℃ ~ 50℃;

  Humidity: 10% ~ 95%, non-condensing;
- Storage Environment:

  Temperature: -20°C ~ 60°C;

  Humidity and Thermal Exchange: +30℃ ~ 60℃, RH = 85% ~ 95%, 48h

EMC

- GB 9254-1998 Radiative interfere, level A; Conductive interfere, level A;
- GB/T 17626.2-2006 Electrostatic discharge, level 2;
- GB/T 17626.4-2008 Burst Immunity, level 2;
- GB/T 17626.5-2008 Surge (shock) immunity, level 2;
- GB/T 17626.6-2008 Conductive immunity, level 2;
- GB/T 17626.11-2008 Voltage dips and short supply interruption;

Reliability

- MTBF≥50000h;
- MTTR≤0.5h;

Safety

Meet the basic requirements of GB4943.

Mechanical and Environmental Adaptability

- Anti-vibration: 5 ~ 17Hz/1.0mm swing; 17 ~ 200Hz/1.0g acceleration;
- Anti-shock: 10g acceleration, 11ms duration.

Requirements of Transportation and Storage

- **Transportation**

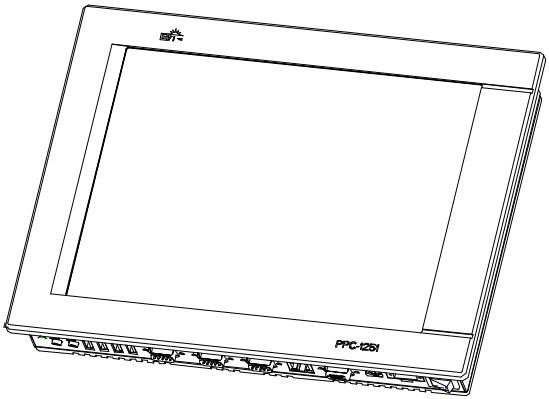
Well-packaged products suit for transportation by truck, ship, and plane. During transportation, products should not be put in open cabin or carriage. When transshipping in route, products should not be stored in the open without protection from the atmospheric conditions. Products should not be transported together with inflammable, explosive and corrosive substances and are not allowed to be exposed to rain, snow and liquid substances and mechanical force.

- **Storage**

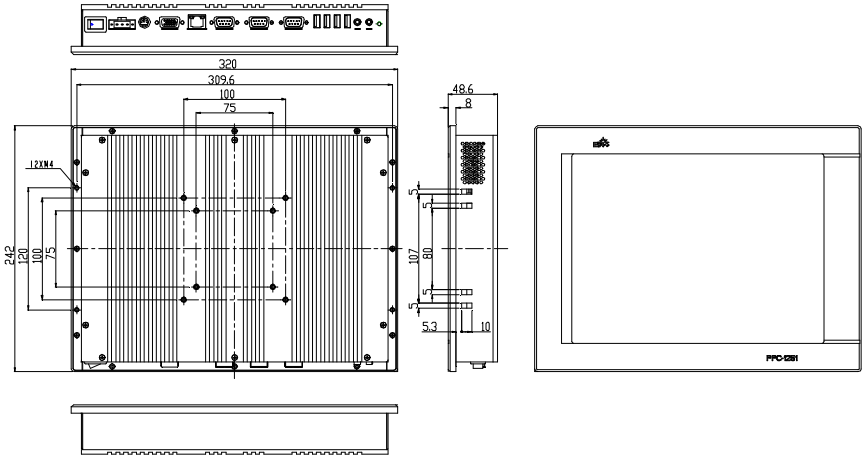
Products should be stored in package box when it is not used. And warehouse temperature should be 0°C~40°C, and relative humidity is 20%~85%. In the warehouse, there should not be harmful gas, inflammable, explosive products, and corrosive chemical products, and strong mechanical vibration, shock and strong magnetic field affection. The package box should be over ground at least 10cm height, and 50cm away from wall, thermal source, and vent.

Chapter 2 Installation

Product Outline

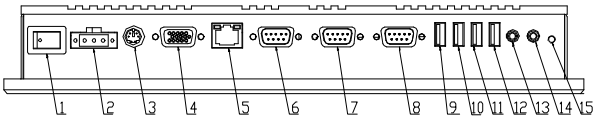


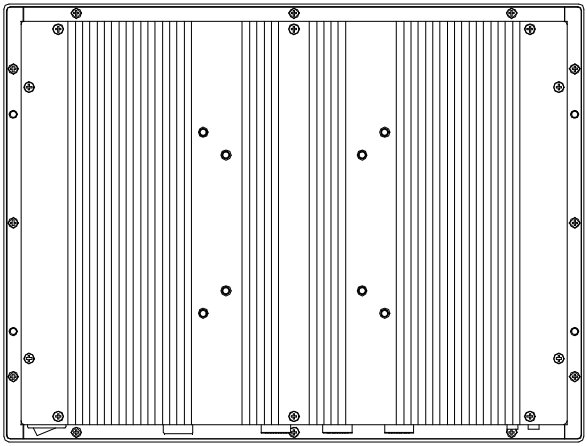
Product Appearance and Installing Dimensions

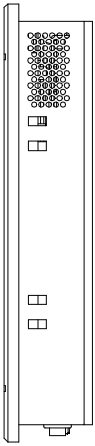


Unit: mm

External Control Connectors

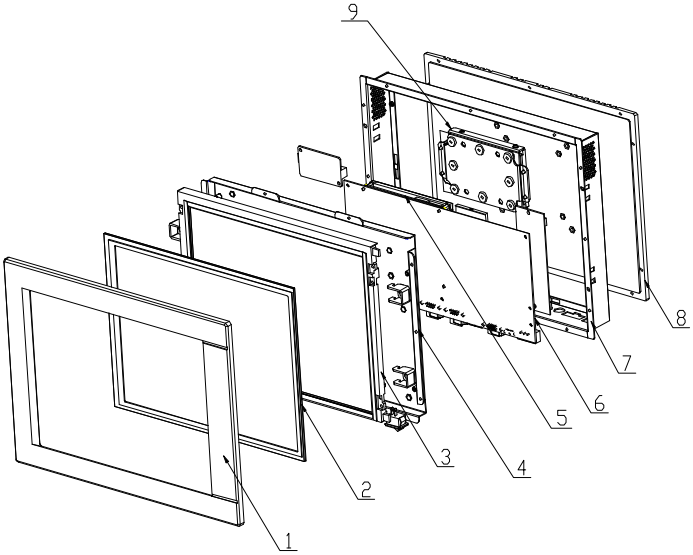






1. Switch	2. Power Connector
3. PS/2 Keyboard/Mouse Connector	4. VGA
5. LAN	6. COM1
7. COM2	8. COM3
9. USB4	10. USB3
11. USB2	12. USB1
13. Microphone	14. Audio Output
15. Grounding Screw	

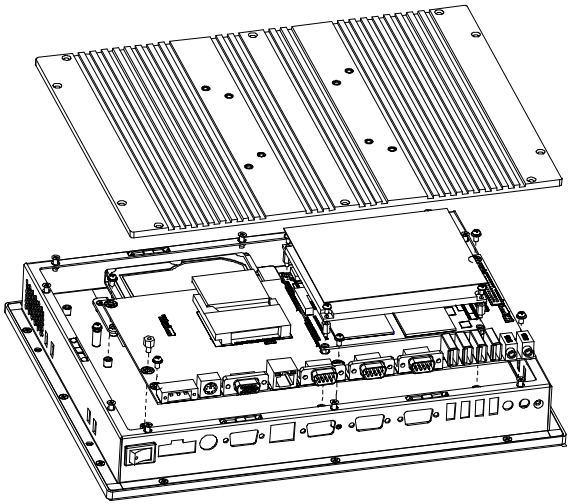
Whole Assembly Drawing



1. Al-alloy Panel	2. Touch Screen/Toughened Glass
3. LCD	4. LCD Bracket
5. Motherboard	6. Carrier
7. Chassis	8. Backplane
9. Hard Disk Module	

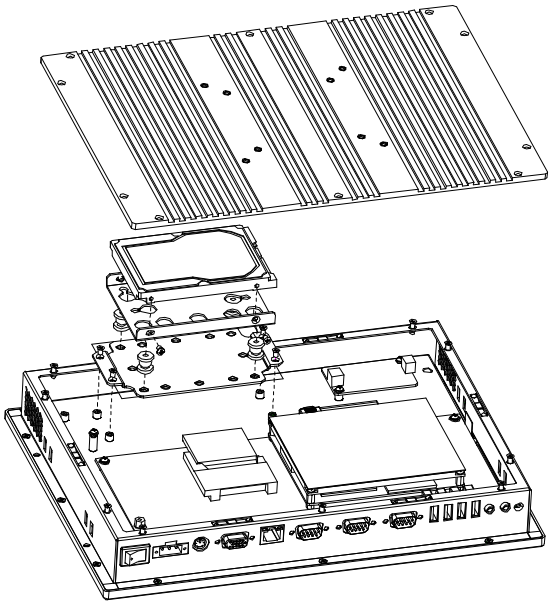
Install the Motherboard

1. Assemble the LCD, LCD bracket and the panel together;
2. Put the carrier on the corresponding location of the Self-Clinching screw of the LCD bracket; tighten the corresponding screw;
3. Put the motherboard into the corresponding slot location on the carrier and press tightly;
4. Tighten the screws on the motherboard and the carrier bracket;



Install the Hard Disk

1. Assemble HDD bracket 1 and bracket 2 into a bracket module with anti-vibration pad;
2. Assemble the hard disk into its bracket module and tighten the screws as HDD module;
3. Put the HDD module into the chassis; insert the corresponding cables and tighten the screws.



Chapter 3 Install the Drivers

Regarding the installation of the drivers, please refer to the CD equipped with the Box PC. The steps will not be introduced here.

Please visit http://www.evoc.com for more information.